SANDY TERRACE

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Areas 75 and 80A
Central Loess Plains and
Central Rolling Red Prairies

2. Climate:

See climate for LRA's 75 and 80A
(Filed in the front of Section II-E)

3. Topography:

The site occurs on nearly level stream terraces with convex slopes just above the flood plain. They receive some additional water in the form of run-in from nearby uplands. Flooding is rare.

4. Soils and Hydrological Characteristics:

a. This site consists of deep, well drained fine sandy loam soils on flood plains. Flooding is normally rare and very brief. Permeability is moderately rapid and available water capacity is moderate. Runoff is slow.

b. The major soils that characterize this site are:

Canadian
Cass, fine sandy loam, rarely flooded
Crisfield, sandy loam, fine sandy loam, rarely flooded
McCook, fine sandy loam, rarely flooded

c. Erosion of rangeland by wind and water is a hazard if the vegetation is overgrazed. Flooding, which is rare, can be a hazard on this site.

5. Climax Vegetation:

a. The natural potential vegetation of this site is a midgrass prairie dominated by tall grasses. Big or sand bluestem, little bluestem, indiangrass, and switchgrass are the dominant forage producers in this condition. Combined they will make up about 70 percent of the total annual yield. Mid and short grasses make up an additional 20 percent and a variety of forbs contribute the remaining 10 percent.

Although this is a terrace site and it does not receive regular overflows, it has similar forage volume to the less stable sandy lowland site. Generally a higher loam content, better soil development, and a better plant cover improves intake and reduces evaporation. All contribute to this unusual situation.

In its development, the vegetation on this site was influenced by grazing and wildfires. The grazing was predominantly by large transient herds of bison and lesser numbers of antelope, elk, and deer.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 90 percent			Forbs - 10 percent		Shrubs and Cacti - T	
	40	big or sand bluestem		catclaw sensitivebriar	T	chickasaw plum
	5	Canada wildrye		compassplant		sand sagebrush
70	5	eastern gamagrass		engelmanndaisy		
	20	indiangrass		heath aster		
	20	little bluestem		Illinois bundleflower		
			10	Louisiana sagewort		
	5	purpletop		maximilian sunflower		
	5	sand lovegrass		silktop dalea		
20	5	sideoats grama		slimflower scurfpea		
	10	switchgrass		western ragweed		
	5	vinemesquite		woolly verbena		
	5	western wheatgrass				
		blue grama				
		scribner panicum				
		sedges				
T		sand dropseed				
		sand paspalum				
		tall dropseed				

c. Invaders common to this site are annual broomweed, Japanese brome, kochia, redcedar, silver bluestem, threeawns, tumblegrass and windmillgrass.

6. Management Implications:

This site occurs on nearly level stream terraces and channeled valleys. The favorable soil moisture available for plant growth and the level topography make this site susceptible to overgrazing. This site is typically in lower range condition than most associated sites unless an intensive grazing management program is followed.

Initial overgrazing of this site with cattle will reduce the production of big or sand bluestem, indiangrass, eastern gamagrass, catclaw sensitivebriar, compassplant, and Illinois bundleflower. Initial increasers are blue grama, little bluestem, sideoats grama, western wheatgrass, Louisiana sagewort, and western ragweed. With continued overgrazing little bluestem and sideoats grama will decrease as plants such as the dropseeds, silver bluestem, and threeawns increase or invade the site.

With excessive overuse, this site may appear as a shortgrass site until the site is rested. Rest following excessive use normally results in a large invasion of annual broomweed, kochia, and numerous other annual forbs and grasses. This situation can normally be controlled by early season grazing and mid to late season rest.

This site normally responds rapidly to good management if remnant plants of the preferred species exist on the site. A combination of grazing distributional aids, proper grazing use, and periodic rests during the grazing season is necessary to maintain or improve this site.

7. Wildlife Considerations:

When maintained in good to excellent condition, this site provides excellent habitat for ground nesting birds, rabbits, and other small animals. It is also a preferred grazing area for deer and turkey limited only by the lack of woody cover. Maintaining this site in a high ecological condition provides the preferred species and diversity necessary for significant wildlife populations.

8. Other Uses and Values:

The broader terrace portions of this site are frequently utilized for cropland. The potential for flooding limits or eliminates the use of this site for housing and other building development. The channeled valley portion of this site is generally unsuited for uses other than rangeland/wildlife land.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, time of burning, if fire is used, as well as growing conditions, influence annual herbage production.

Growing Conditions	Total Air Dry Herbage Pounds/Acre	Total Air Dry Herbage Kilograms/Hectare
Favorable	4,800-6,800	5,370-7,600
Normal	3,600-4,800	4,030-5,370
Unfavorable	2,400-3,600	2,680-4,030

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	10-12	1.2	4-5	3.0
Good	51-75	12-16	.9	5-7	2.25
Fair	26-50	16-25	.6	7-10	1.5
Poor	0-25	25+	.4	10+	1.0

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production.

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High
M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Animal Species			
	Cattle	Deer	Quail	Pheasant
big or sand bluestem	H	C	C,N	C,N
blue grama	H	F	---	---
catclaw sensitivebriar	H	F	F	F
compassplant	H	F	C,F	C,F
engelmanndaisy	M	F	F	F
heath aster	M	F	---	---
Illinois bundleflower	H	F	F	F
indiangrass	H	C	C,N	C,N
little bluestem	H	---	C,N	C,N
Louisiana sagewort	M	F	F	F
maximilian sunflower	H	F	C,F	C,F
scribner panicum	M	F	F	F
sedges	M	F	F	F
sideoats grama	H	---	C	C
switchgrass	H 1/	C	C,F,N	C,F,N
vinemesquite	H	---	F	F
western ragweed	M	F	C,F	C,F
western wheatgrass	M	F	C,N	C,N

1/ Preferred during first half of growing season

Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.

SANDY TERRACE

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Areas 78 and 79
Central Rolling Red Plains and
Great Bend Sand Plains

2. Climate:

See climate for LRA's 78 and 79
(Filed in the front of Section II-E)

3. Topography:

The site occurs on nearly level stream terraces with convex slopes just above the flood plain. They receive some additional water in the form of run-in from nearby uplands. Flooding is rare.

4 Soils and Hydrological Characteristics:

a. This site consists of deep, well drained fine sandy loam soils on flood plains. Flooding is normally rare and very brief. Permeability is moderately rapid and available water capacity is moderate. Runoff is slow. Portions of this site are the level areas of channeled valleys in the Quinlan-Woodward-Grant association.

b. The major soils that characterize this site are:

Canadian
Las Animas 1/

Yahola 2/

1/ Edwards County

2/ Meade County

Erosion of rangeland by wind and water is a hazard if the vegetation is overgrazed. Flooding, which is rare, can be a hazard on this site.

5. Climax Vegetation:

a. The natural potential vegetation of this site is a midgrass prairie dominated by tall grasses. Big or sand bluestem, little bluestem, indiangrass, and switchgrass are the dominant forage producers in this condition. Combined they will make up 70 to 75 percent of the total annual yield. Mid and short grasses make up an additional 15 to 20 percent and a variety of forbs contribute the remaining 10 percent.

Although this is a terrace site and it does not receive regular overflows, its productivity is similar to the less stable sandy lowland site. Generally a higher loam content, better soil development, and a dense plant community improves intake and reduces evaporation. All contribute to this unusual situation.

In its development, the vegetation on this site was influenced by grazing and wildfires. The grazing was predominantly by large transient herds of bison and lesser numbers of antelope, elk, and deer.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 90 percent			Forbs - 10 percent		Shrubs and Cacti - T	
65	40	big or sand bluestem	10	catclaw sensitivebriar	T	chickasaw plum
	5	Canada wildrye		compassplant		sand sagebrush
	5	eastern gamagrass		engelmanndaisy		small soapweed
	15	indiangrass		heath aster		
	20	little bluestem		Illinois bundleflower		
20	5	purpletop		Louisiana sagewort		
	5	sand lovegrass		maximilian sunflower		
	5	sideoats grama		silktop dalea		
	10	switchgrass		slimflower scurfpea		
	5	vinemesquite		western ragweed		
	5	western wheatgrass		woolly verbena		
5		blue grama				
		scribner panicum				
		sedges				
T		sand dropseed				
		sand paspalum				
		tall dropseed				

c. Invaders common to this site are annual broomweed, Japanese brome, kochia, redcedar, silver bluestem, threeawns, tumblegrass, and windmillgrass.

6. Management Implications:

The favorable soil moisture available for plant growth and the level topography make this site susceptible to overgrazing. This site is typically in lower range condition than most associated sites unless an intensive grazing management program is followed.

Initial overgrazing of this site with cattle will reduce the production of big or sand bluestem, indiangrass, eastern gamagrass, catclaw sensitivebriar, compassplant, and Illinois bundleflower. Initial increasers are blue grama, little bluestem, sideoats grama, western wheatgrass, Louisiana sagewort, and western ragweed. With continued overgrazing little bluestem and sideoats grama, will decrease as plants such as the dropseeds, silver bluestem, and threeawns increase or invade the site.

With excessive overuse, this site may appear as a shortgrass site until the site is rested. Rest following excessive use normally results in a large invasion of annual broomweed, kochia, and numerous other annual forbs and grasses. This situation can normally be controlled by early season grazing and mid to late season rest.

This site normally responds rapidly to good management if remnant plants of the preferred species exist on the site. A combination of grazing distributional aids, proper grazing use, and periodic rests during the grazing season is necessary to maintain or improve this site.

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8. Other Uses and Values:

The broader terrace portions of this site are frequently utilized for cropland. The potential for flooding limits or eliminates the use of this site for housing and other building development. The channeled valley portion of this site is generally unsuited for uses other than rangeland/wildlife land.

9. Herbage Production Guidelines:

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Growing Conditions	Total Air Dry Herbage Pounds/Acre	Kilograms/Hectare
Favorable	4,000-5,500	4,480-6,150
Normal	3,000-4,000	3,360-4,480
Unfavorable	2,000-3,000	2,240-3,360

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
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Good	51-75	13-18	.8	5-7	2.0
Fair	26-50	18-30	.5	7-12	1.2
Poor	0-25	30+	.3	12+	.7

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production.

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blue grama	H	F	---	---
catclaw sensitivebriar	H	F	F	F
compassplant	H	F	C,F	C,F
engelmanndaisy	M	F	F	F
heath aster	M	F	---	---
Illinois bundleflower	H	F	F	F
indiangrass	H	C	C,N	C,N
little bluestem	H	---	C,N	C,N
Louisiana sagewort	M	F	F	F
maximilian sunflower	H	F	C,F	C,F
scribner panicum	M	F	F	F
sedges	M	F	F	F
sideoats grama	H	---	C	C
switchgrass	H 1/	C	C,F,N	C,F,N
vinemesquite	H	---	F	F
western ragweed	M	F	C,F	C,F
western wheatgrass	M	F	C,N	C,N

1/ Preferred during first half of growing season

Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.